CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/W.No.04/KRIDL/CSR.7/883a/CEMENT/2015-16 Date: 03.07.2015

TEST REPORT ON CEMENT

* CUSTOMER	:	**Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.
*AGENCY	:	**Technical Manager (West),** KRIDL, Bangalore.
*NAME OF THE WORK	:	Improvements of drains asphalting to A sector and cross roads in Ward No.04, BBMP, Bangalore.
REFERENCE	:	BBMP/AEE/YNSD/137/2015-16 Dated: 01.07.2015
SAMPLE ID	:	Cement – (Sample- 2)
SAMPLE RECEIVED ON	:	01.07.2015
PERIOD OF TESTING	:	01.07.2015 to 03.07.2015

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	28.50 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	150 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	495 Minutes	Not More than 600 Minutes
3	Soundness by Le Chatlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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Job No.: CTCE/BBMP/W.No.04/KRIDL/CSR.7/883a/SAND-Gradation/2015-16 : 03.07.2015

TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.
* Agency	: **Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	: Improvements of drains asphalting to A secror and cross roads in Ward No.04, BBMP, Bangalore.
Reference	: BBMP/AEE/YNSD/137/2015-16 Dated: 01.07.2015
Technical Reference	: IS : 2386 Part 1 - 1963 RA-2007
Sample ID	: Fine Aggregates – (Sample- 2)
Sample Received on	: 01.07.2015
Date of Testing	: 03.07.2015

Total Wt. of Aggregates in gms 1000

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	92.79	90-100	90-100	90-100	95-100
2.36	79.15	60-95	75-100	85-100	95-100
1.18	56.77	30-70	55-90	75-100	90-100
600 Micron	25.23	15-34	35-59	60-79	80-100
300 Micron	10.37	5-20	8-30	12-40	15-50
150 Micron	5.22	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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Job No.: CTCE/BBMP/W.No.04/KRIDL/CSR/7/883a/AGG/GR/2015-16 : 03.07.2015

TEST REPORT ON DETERMINATION GRADATION OF COARSE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.
* Agency	: **Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	: Improvements of drains asphalting to A sector and cross roads in Ward No.04, BBMP, Bangalore.
Reference	: BBMP/AEE/YNSD/137/2015-16 Dated: 01.07.2015
Technical Reference	: IS : 2386 Part 1 -1963 RA-2007
Sample ID	: Coarse Aggregates (40mm) – (Sample- 2)
Sample Received on	: 01.07.2015
Date of Testing	: 03.07.2015

Total Wt. of Aggregates in gms= **10000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.25	95-100	85-100
20	51.45	30-70	0-20
10	25.10	10-35	0-5
4.75	3.35	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under graded specific limits.

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Job No.: CTCE/BBMP/W.No.04/KRIDL/CSR.7/883a/CC Solid Block/2015-16 : 07.07.2015

TEST REPORT ON SOLID CONCRETE BLOCKS

* Customer	: **Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.
* Agency	: **Technical Manager (West),** KRIDL, Bangalore.
* Name of the Work	: Improvements of drains asphalting to A sector and cross roads in Ward No.04, BBMP, Bangalore.
Reference	: BBMP/AEE/YNSD/137/2015-16 Dated: 01.07.2015
Sample Received on	: 01.07.2015
Date of Testing	: 07.07.2015
Size of Blocks	: 400mm x 200mm x 200mm
Cross Sectional Area	: 80000 mm^2
Technical Reference	: IS: 2185 (Part 1) - 2005
No. of Blocks Tested	: 08

Sl.No.	Block ID	Wt. in Kg	Failure load (KN)	Compressive strength (N/mm^2)	Requirement as per IS 2185 (Part 1) - 2005
1	Block 1	36.23	262.5	3.28	Minimum required Compressive Strength of Individual Units 3.20 N/mm^2
2	Block 2	34.87	260.7	3.26	
3	Block 3	35.64	263.4	3.29	
4	Block 4	34.82	260.5	3.26	
5	Block 5	35.29	259.8	3.25	
6	Block 6	36.52	263.4	3.29	
7	Block 7	34.85	262.7	3.28	
8	Block 8	35.26	261.5	3.27	

*Information is furnished by the Customer/Representative.

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Job No: CTCE/BBMP/W.No.04/KRIDL/CSR.7/883a/Kerb Stone/2015-16 03.07.2015

TEST REPORT ON CONCRETE CORE (KERB STONE)

* Name of Client	:	**Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.
* Name of Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of work	:	Improvements of drains asphalting to A sector and cross roads in Ward No.04, BBMP, Bangalore.
Referece	:	BBMP/AEE/YNSD/137/2015-16 Dated: 01.07.2015
No.of Sample Tested	:	03
Sample received on	:	01.07.2015
Date of Testing	:	03.07.2015
Techinical Reference	:	IS:516-1959 (Reaffirmed 2008), SP-24:1983.
Grade of Concrete	:	M_{15}

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	79.00	0.393	2533.59	1.58	0.955	25.35	12.91	13.94	13.32	16.65
2	50.00	80.00	0.402	2559.21	1.60	0.960	26.20	13.34	14.41	13.83	17.29
3	50.00	82.00	0.410	2546.48	1.64	0.965	25.45	12.96	14.00	13.51	16.89

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Job No.: CTCE/BBMP/W.No.04/KRIDL/CSR.7/883a/CUBE/2015-16 27.07.2015

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: **Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.
* Agency	: **Technical Manager (West),** KRIDL, Bangalore.
* Name of the work	: Improvements of drains asphalting to A sector and cross roads in Ward No.04, BBMP, Bangalore.
* Reference	: BBMP/AEE/YNSD/137/2015-16 Dated: 01.07.2015
* Sample ID	: Cement Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{15}
Compressive Strength as o	: 7^{th} day
Sample Received on	: 20.07.2015

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	20.07.2015	27.07.2015	8.257	243.5	10.82
2	20.07.2015	27.07.2015	8.363	254.7	11.32
3	20.07.2015	27.07.2015	8.458	268.9	11.95

AE LV-4

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Job No.: CTCE/BBMP/W.No.04/KRIDL/SDBC/Bit/2015-16 27.07.2015

BITUMEN CONTENT DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX AS PER IRC:SP:11-1984

CUSTOMER	**Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.
AGENCY	**Technical Manager (West),** KRIDL, Bangalore.
NAME OF THE WORK	Improvements of drains asphalting to A sector and cross roads in Ward No.04, BBMP, Bangalore.
REFERENCE	BBMP/AEE/YNSD/137/2015-16 Dated: 01.07.2015
SAMPLE I/D	12th A Cross A sector Ward No.04
DATE OF TESTING	27.07.2015

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	475	475
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	25	25.00
7. Bitumen content in %	5.00	5.00
8. Average	5.00	

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Job No.: CTCE/BBMP/W.No.04/KRIDL/SDBC/Ba/2015-16 27.07.2015

GRADATION DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX AS PER IS2386 & IRC:SP:11-1984

CUSTOMER	**Asst. Executive Engineer,** Yelahanka New Town Sub Division, BBMP, Bangalore.
AGENCY	**Technical Manager (West),** KRIDL, Bangalore.
NAME OF THE WORK	Improvements of drains asphalting to A sector and cross roads in Ward No.04, BBMP, Bangalore.
REFERENCE	BBMP/AEE/YNSD/137/2015-16 Dated: 01.07.2015
SAMPLE I/D	12th A Cross A sector Ward No.04
DATE OF TESTING	27.07.2015

GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	36.15	7.61	7.61	92.39	90-100
4.75	263.4	55.45	63.06	36.94	35-51
2.36	54.87	11.55	74.61	25.39	24-39
1.18	42.53	8.95	83.57	16.43	15-30
0.3	26.58	5.60	89.16	10.84	9-19
0.075	25.47	5.36	94.53	5.47	3-8

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	36.52	7.69	7.69	92.31	90-100
4.75	262.7	53.20	60.89	39.11	35-51
2.36	54.36	11.44	72.33	27.67	24-39
1.18	47.18	9.93	82.27	17.73	15-30
0.3	33.26	7.00	89.27	10.73	9-19
0.075	27.48	5.79	95.05	4.95	3-8

AE W-4

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